

USDA Landsat Imagery Archive

The USDA Foreign Agricultural Service (FAS) is responsible for assessing global crop conditions and making agricultural production estimates. In addition to global crop monitoring, the FAS provides USDA agencies early warning of unusual crop events, growing conditions and agriculture damages caused by natural disasters in the United States. The FAS draws on a variety of data and information tools such as crop models, daily weather data, vegetative indices, ground truth and satellite imagery to make their assessments. Annually, the FAS purchases complete coverage of Landsat imagery over the conterminous United States and selected foreign areas for remote sensing analysis.

Recently, the FAS brokered a contractual agreement with a commercial satellite provider which permits FAS to reproduce their Landsat imagery for other USDA agencies use. The imagery is copyrighted and licensed for USDA use only. USDA users of the data must sign an agreement certifying the data will not be reproduced or disseminated outside the USDA for commercial uses. A copy of the "Affiliated Users Certification Form" is shown below.

The FAS global archive consists of more than 60,000 satellite images dating back to 1979. Since 1995, the FAS purchased over 6,500 Landsat scenes. The NRCS contributes funding towards maintaining the archive and duplicating Landsat imagery from the archive. Our funding participation entitles NRCS free access to the Landsat holdings in the FAS archive library. If a state wants Landsat data that is not in the archive, FAS can order it at a discounted price however the state will have to pay FAS for this.

FAS developed an online system called "Archive Explorer" for users to query and search for imagery by date, date range, path/row or by map. You can access the website at: www.fas.usda.gov/pecad You must access the website with Internet Explorer and complete the registration form to obtain a password. Click on "Archive Explorer" to register for a password. It may take a few days for your registration to be approved and to receive your password. After you receive approval via email, you will be able to query the system at anytime in the future.

The FAS wants all orders for Landsat imagery be submitted to them from one location. If you determine there is imagery in the archive that meets your requirements, please contact Dorsey Plunk, Remote Sensing Specialist, NCGC, Ft. Worth, TX to obtain the imagery. Dorsey can be reached at (817) 509-3348 or dplunk@ftw.nrcs.usda.gov

The majority of the data in archive is in a Landsat format and has to be imported into a GIS or image processing software. For sites having ERDAS, NCGC will send the raw data to them. For the other sites, NCGC will convert the imagery to ERDAS .img files so they can use it in ArcINFO or ArcView.

Public Law 102-555, Section 3 Definitions

(11) The term "noncommercial purposes" refers to those activities undertaken by individuals or entities on the condition, upon receipt of the un-enhanced data, that:

such data shall not be used in connection with any bid for a commercial contract, development of a commercial product, or any other non-United States Government activity that is expected, or has the potential, to be profit making.

the results of such activities are disclosed in a timely and complete fashion in the open technical literature or other method of public release, except when such disclosure by the United States Government or its contractors would adversely affect the national security or foreign policy of the United States or violate a provision of law or regulations: and such data shall not be distributed in competition with the un-enhanced data provided by the contractors.

Enhanced Data Definitions from the by Spacing Imaging EOSAT home page

The purpose of this note is to clarify the distinction between enhanced and un-enhanced data. This question arises because EOSAT has exclusive rights in the un-enhanced data. There is a clear definition of un-enhanced data from PL 102-555 (the National Land Remote Sensing Policy Act of 1992- 'The Landsat Act'):

"rectification of system and sensor distortions ... registration of such data with respect to features of the Earth; and calibration of spectral response...."

EOSAT georeferences or geocodes imagery to any pixel resampling interval the customer requests using the cubic convolution resampling or the nearest neighbor resamplers. Geometric correction cannot be performed without resampling, and thus, any reprocessing by users that is only a second resampling by any means does not qualify as an enhancement. EOSAT provides terrain corrected (ortho-correction) imagery using digital elevation maps (DEMs). The use of both ground control points and DEMs clearly fall within the general statutory definition of "registration... to features of the Earth."

For data to qualify as enhanced it must have some additional information added to the imagery in such a manner that further analysis results in significantly different answers. The most meaningful measure of whether a processed image is 'enhanced' is a comparison of derived thematic maps from the un-enhanced and the enhanced data sets. If using the same multispectral unsupervised classifier on the original data and the 'enhanced' data produces the same thematic maps, then no significant amount of information has been added or deleted.

Thus, the method for determining whether an image is enhanced consists of a pair of tests:

If original data is being transferred by any means then the data is not enhanced. Radiometric and geometric corrections do not constitute enhancements.

If the original data is not being transferred then the classification test is applied. Apply any multispectral unsupervised classification algorithm to both the original data and to the modified data using the same number of requested classes and other parameters. If both thematic maps are the same, then the modified data is not enhanced.

For historical reasons, it has been EOSAT's policy to allow the geocoding and atmospheric correction of imagery to be performed by customers. However, these data sets are not enhanced and are not to be resold. As a final note, EOSAT always allows reproduction of imagery in journals. EOSAT does request acknowledgment that the data is derived from Landsat imagery obtained from EOSAT. EOSAT also allows the author to use numbers extracted from a Landsat image in the body of or in a table in the paper. The required procedure is for the client to complete the form "A Partial Release from ..." specifying the details of the situation. This summary is intended to be used by EOSAT staff for telephone discussions and may be reproduced for transmittal to commercial customers. There will always be cases that do not clearly fit into the rules. It is important that customers (and EOSAT staff and representatives) be encouraged to seek clarification from EOSAT's senior technical advisors in the application of the rules.

The False Statements Accountability Act of 1996, amending 18 USC 1001

The False Statements Accountability Act of 1996, amending 18 USC 1001, makes it a crime knowingly and willfully (1) to falsify, conceal or cover up a material fact by trick, scheme or device; (2) to make any materially false, fictitious, or fraudulent statement or representation; or (3) to make or use any false writing or document knowing it to contain any materially false, fictitious, or fraudulent statement or entry; with respect to matters within the jurisdiction of the legislative, executive, or judicial branch. A separate subsection of the act limits its scope with respect to legislative branch matters (see 18 USC 1001(c)). The False Statements Accountability Act does not assign any responsibilities to the Clerk and Secretary, and we are not in a position to offer advice or guidance as to whether or not the act applies to the filing of, or failure to file, a registration or report required by the LDA. The question is one that will have to be resolved, in the first instance, by the Department of Justice.

18 U.S.C. Sec. 1001: FALSE STATEMENTS TO AN AGENCY OF THE UNITED STATES

Whoever, in any matter within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up by any trick, scheme, or device a material fact, or makes any false, fictitious or fraudulent statements or representations, or makes or uses any false writing or document knowing the same to contain any false, fictitious or fraudulent statement or entry, shall be fined under this title or imprisoned not more than five years, or both.

False statements, 18 U.S.C. '1001 Penalties:

Imprisonment: five years. Fine: the greater of (a) \$250,000 for an individual, \$500,000 for an organization, or (b) twice the gross gain or loss from the offense